Docket I.D. Number EPA-HQ-OAR-2009-0211

COMMENT OF ALGENOL BIOFUELS ON THE WAIVER APPLICATION TO INCREASE THE ALLOWABLE ETHANOL CONTENT OF GASOLINE TO 15 PERCENT

Algenol Biofuels, a Florida-based company, has developed the technology to produce ethanol directly from algae. Algenol will produce fuel in a pilot scale facility in 2010 and expects to initiate commercial scale production in 2010 or 2011.

The Algenol difference

Algenol's Direct to Ethanol™ technology offers the U.S. a new source of fuel that will be:

- priced competitively with conventional fuels and not subject to feedstock cost fluctuations;
- entirely domestically sourced;
- extremely low in carbon life-cycle cost; and
- fungible with conventional ethanol.

The Algenol production inputs are algae, saltwater, sunlight, carbon dioxide, and barren land. The algae are selected from among the thousands of strains of algae in our own laboratories for, among other attributes, rapid cell multiplication and long life. Saltwater is available from oceans, the Gulf of Mexico, and from inland saline aquifers. Sunlight is consistently unimpeded in Southern California, Arizona, New Mexico, South Texas, and South Florida. The overabundance of carbon dioxide from industrial sources and in atmospheric concentrations is well known. And Algenol would require only a tiny fraction of the vacant, barren land in those sunny areas to replace all the gasoline currently consumed in the U.S. each year. Algenol can produce 6,000 gallons of ethanol per acre per year. A seventeen mile square parcel could yield more ethanol per year than is produced annually by the entire state of Indiana.

"The blend wall"

Therefore, it will not be cost or feedstock availability that could restrict consumer access to Algenol fuel. Rather, without changes in policy consumer access to algae-based ethanol could be restricted by the "blend wall."

In Algenol's view, the "blend wall" is broader than the E-10 ethanol blending limit in gasoline. "Blend wall" includes the lack of flexible fuel vehicles and the lack of E-85 distribution and dispensing equipment. Ultimately a U.S. car and light truck fleet in which flex-fuel capability is standard, combined with universal availability of high-ethanol blends at retail dispensing stations, will transform the U.S. energy equation. Abundant and low cost ethanol will be produced in far more regions than today. Supply will be more quickly responsive to demand since large-scale increments of fuel production can progress from start-up to full scale production in months rather than years. The resulting inter-fuel competition will stabilize prices for gasoline, conventional ethanol, and advanced technology biofuels.

Addressing climate change

Opening the blend wall can also reduce greenhouse gas concentrations. Algenol fuel will displace fuels with higher life-cycle carbon costs because the carbon dioxide emitted from vehicles using Algenol fuel is originally extracted from industrial sources or ambient air. Thus burning the fuel does not add new CO2 to the atmosphere. And producing Algenol fuel requires minimum direct or indirect CO2 emissions. Because land used for production is barren desert no carbon sink vegetation is cleared for feedstock production or harvesting.

The fuel manufacturing process itself is passive; it is linked to the photosynthesis occurring in the algae cells. Consequently no large, heat intensive refineries are needed. A life-cycle carbon analysis is in the process of being performed for algae-based ethanol, and preliminary indications are that no known transportation fuel will likely be lower than algae-based ethanol.

Conserving water and land

Adding more Algenol fuel to the U.S. transportation fuel mix can save fresh water and help conserve farmland. Using saltwater as a feedstock the Algenol Direct to Ethanol^{TM} technology actually yields fresh water as a byproduct of the evaporative process in the closed bioreactors in which ethanol is produced.

Algenol Biofuels will only locate production facilities on barren desert

or otherwise non-productive land in hot, dry, sunny regions. This land has never been suitable for agricultural production. So rather than increasing pressures on land needed for food and feed production, Algenol will actually reduce that pressure making farmland conservation more likely.

Opening the blend wall

For all of the foregoing reasons Algenol advocates opening the blend wall so that algae-based and other advanced technology ethanol can make a greater contribution to U.S. fuel supply. As the request for comments points out, action could result in dispensing stations offering E-15 for cars and light trucks and E-10 for other motors or blends between E-15 and E-10. We urge the Agency to work expeditiously to modify the E-10 blending cap by adopting options that afford consumers access to the maximum amount of ethanol in their fuel blends that is compatible with currently operating vehicles and equipment. We do not advocate Agency action that could result in emission control equipment malfunction or other damage to vehicles, motors, or distribution and dispensing equipment. We understand that the Agency's action will be based on sound engineering analysis and testing.

Beyond modifying the E-10 blending cap, we urge the President and the Administrator to pursue every means necessary, both administrative and legislative, to afford consumers access to even higher blends of ethanol so that Algenol Biofuels and other advanced technology ethanol producers can give consumers the real choices they need to stabilize fuel prices, eliminate dependence on unstable foreign energy sources, and reduce greenhouse gas concentrations.